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Atty. Docket No. ACR0025-US (MTKI-04-218A)  
Serial No: 09/828,202

Amendments to the Claims

Please amend the claims as follows:

1. (Currently Amended) A system for decoding data, comprising:
  - a syndrome generator for generating a PI (Parity of Inner-code) direction syndrome and a PO (Parity of Outer-code) direction syndrome from an ECC (Error Correction Code) block comprising scrambled data, a PI, and a PO;
  - a memory that stores said PO direction syndrome during generation of said PO direction syndrome;
  - a data buffer for storing said mainscrambled data from said ECC block, said PI direction syndrome and said PO direction syndrome; and
  - an ECC decoder for performing error correction decoding of said scrambled data stored in said data buffer, using said PI direction syndrome and said PO direction syndrome.
2. (Previously Presented) The system as claimed in claim 1 further comprising a data room to store said PI direction syndrome and said PO direction syndrome, wherein said ECC decoder accesses said PI direction syndrome and said PO direction syndrome from said data room for ensuing error correction decoding.
3. (Currently Amended) The system as claimed in claim 2 wherein said syndrome generator reads said ECC block and transfers said mainscrambled data to said data buffer; and said ECC decoder reads said PI direction syndrome and said PO direction syndrome from said data buffer to said data room and repeats ECC decoding by accessing and correcting said PI direction syndrome and said PO direction syndrome in said data room and writing corrected mainscrambled data into said data buffer.
4. (Previously Presented) The system as claimed in claim 1 further comprising a demodulator that receives and demodulates data from an optical disk to generate said ECC block and that converts M bit code words into N bit data symbols ( $M > N$ ).